

## Needs Assessment and a Model Agenda for Training the Public Health Workforce

### ABSTRACT

**Objectives.** A training needs assessment project tested the use of “universal” competencies for establishing a model training agenda for the public health workforce.

**Methods.** Agency supervisors selected competencies for training priorities. Regional and national public health leaders used these selections to design the model training agenda.

**Results.** The competencies given high priority by supervisors varied among state and local agencies and included some not within the universal set. The model training agenda reflected supervisors’ priorities as well as leaders’ perspectives.

**Conclusions.** The universal competencies provide a useful starting point, but not necessarily an exclusive framework, for assessing and meeting the training needs of the public health workforce. (*Am J Public Health.* 2000;90:1294–1296)

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Since the Institute of Medicine’s 1988 report, inadequate education and training of the workforce has been recognized as one of the causes of “disarray” in public health.<sup>1</sup> Addressing this inadequacy was hampered by the fact that there was no shared set of professional skills to define the public health profession. Thus, a comprehensive training program could not be designed until the elements of public health practice<sup>2</sup> and the competencies required of public health workers were clearly defined.

In the early 1990s, the Public Health Faculty/Agency Forum<sup>3</sup> recognized 6 disciplines—analysis, communications, policy and program planning, culture, basic science, and finance and management—that contributed to the education of public health professionals. Within each discipline, the forum recognized a set of 39 “universal” competencies to be mastered by all students regardless of specialty. Subsequently, the Public Health Functions Project,<sup>4</sup> convened by the secretary of health and human services, linked the universal competencies to the elements of public health practice—its “essential services.” Its view was that training workers in the universal competencies would improve the practice of public health. The Public Health Service adopted this view in its public health infrastructure Objective 23-8 for the Year 2010: “Increase the proportion of Federal, Tribal, State, and local agencies that incorporate specific competencies in the essential public health services into personnel systems.”<sup>5</sup>

However, the practical application of universal competencies to the training of public health workers in the field remained unexplored. Some of the unanswered questions were (1) How could the universal competencies be used to define the training needs of public health workers? (2) Would agency-based supervisors agree with the perspectives of national public health leaders? (3) Given limited agency budgets, how should competency training be prioritized? (4) Should these

priorities be the same for all workers and agencies?

This report is based on the Pennsylvania and Northeast Public Health Workforce Training Project, which was designed to address these practical questions. The project tested the use of universal competencies as a training needs assessment tool and recognized the potentially different perspectives of agency-based and national leaders. It produced a model training agenda that can be used by agencies and educators interested in workforce development programs.

### Methods

Public health professionals and academicians at the national, state, and local levels participated in assessing and prioritizing the training needs of public health workers in a 2-phased process. During phase 1 (fall 1998), 78 state and local agency supervisors from Maine, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont completed 3 tasks. First, as individuals, they selected the universal competencies considered as training priorities for the people they supervised. Second, in group meetings, they reviewed the compiled competency selections and discussed the adequacy of the competency framework. Third, again as individuals, they named one professional category comprising the largest number of their super-

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**TABLE 1—High-Priority<sup>a</sup> Analytic Competencies as Selected by Public Health Agency Supervisors**

Analytic Competency	Pennsylvania		Agencies of 6 States <sup>b</sup> (n = 22)
	Local Agencies (n = 19)	State Agency (n = 37)	
1. Defining a problem		X	
2. Determining appropriate use of data and statistical methods	X	X	X
3. Selecting and defining relevant variables	X		
4. Evaluating the integrity and comparability of data			
5. Understanding how data illuminate issues		X	
6. Understanding basic research designs			
7. Making relevant inferences from data		X	

<sup>a</sup>Competencies identified by at least two thirds of the supervisors who were asked to identify *all* that applied.

<sup>b</sup>Maine, New York, New Jersey, Pennsylvania, Rhode Island, and Vermont.

vises and selected the competencies in which that profession most needed training.

During phase 2 (spring 1999), the project convened regional and national public health leaders in 2 working groups: (1) a curriculum design team of 16 members, including academicians, continuing education directors, and senior agency personnel drawn from the same northeastern states as the supervisors, and (2) a national advisory committee of 12 members, including leading academicians and representatives from national public health professional groups and associations and federal agencies—many of whom had been members of the Faculty/Agency Forum and/or the Public Health Functions Project. The curriculum design team and the national advisory committee communicated via in-person meetings, teleconferences, Internet messages, and Web sites. Their tasks were to review the findings of phase 1 and to recommend the competencies that should constitute a model training agenda. In the course of their work, they referred to training needs assessments and curriculum proposals previously produced by other researchers.<sup>6,7</sup>

## Results

This project was designed to test the practicality of the universal competency framework in assessing the training needs of state and local public health workers and in designing a model training agenda. Its results illustrated the differences among training priorities of various agency supervisors and showed how these differences could be recognized and addressed in a relatively standardized training agenda.

In phase 1, supervisors' selections of high-priority competencies varied by agency. Table 1 illustrates this variation within the analytic discipline's 7 competencies; results were similar for all 6 of the Faculty/Agency Forum's discipline areas. Three groups of supervisors are included in Table 1: Pennsylvania local agencies,

the Pennsylvania state-level agency, and state and local agencies from all 6 northeastern states. High priority for this purpose meant that a competency was selected by at least two thirds of the group members when each was asked to identify *all* competencies that should be included in a training program. Each individual responded by selecting as few as none or as many as all analytic competencies from the list of 7. At least two thirds of the supervisors in all 3 groups chose competency 2 ("Determining appropriate use of data and statistical methods"). One or more groups also gave high priority to competencies 1, 3, 5, and 7, but no group gave high priority to competencies 4 or 6.

When supervisors in phase 1 were asked to choose a single professional group as a training priority, they most frequently identified public health nurses, health educators, and managers/administrators, but they often did not agree on the competency training needs of each of these professions. Supervisors' competency selections varied across professions, just as they had varied across agencies (see Table 1).

Supervisors considered the universal competencies to be incomplete as a framework for defining training priorities in 2 respects. First, they indicated that this framework did not sufficiently emphasize an understanding of the history, values, methods, systems, and laws that characterize the public health field. They considered these topics important not only for newly hired and clerical personnel but also for professional workers. They emphasized that those with clinical health and scientific backgrounds often have neither a grounding in population-based health nor an orientation to public health's characteristic values.

Second, the universal competency framework excluded agency-specific training needs. For example, supervisors from 2 different agencies indicated the need for training in the principles of confidentiality concerning personal health information. Also, some supervisors believed that it was important for employees to

have training in topics specific to their own agency, such as applicable state public health statutes and internal personnel policies.

The result of phase 2 was the set of competencies to be included in a model training agenda, based on the priority selections of phase 1 and also on the collective judgment of the regional and national public health leaders. As shown in Table 2, this resulting set included 9 of the 39 universal competencies, with some competencies from each discipline area: 2 of the 7 analytic competencies, 2 of the 6 communications competencies, 1 of the 10 policy and program-planning competencies, 1 of the 4 culture competencies, 2 of the 4 basic science competencies, and 1 of the 8 finance and management competencies. It also included 4 competencies for a seventh area—an "orientation to public health"—based on the previous work of Gebbie and Hwang.<sup>7</sup>

## Discussion

Ultimately, the collective social purpose of training public health workers is to improve the performance capacity of the agencies that employ them. If an agency's capacity is defined (at least partially) in terms of the professional competencies of its personnel, then training programs should be directed at improving these competencies. The Pennsylvania and Northeast Public Health Workforce Training Project tested and confirmed the usefulness of the Faculty/Agency Forum's universal competencies as a framework for assessing the training needs of public health workers.

This competency framework gave agency supervisors and public health leaders a common ground from which to work through the task of prioritizing training topics. High-priority competencies tended to be those of general usefulness in the workforce, and low-priority competencies tended to be those useful to relatively smaller groups or to specialized

**TABLE 2—Model Training Agenda Based on “Universal” Competencies<sup>a</sup> and Training Needs Assessment**

Analytic discipline (n=7)
Determining appropriate use of data and statistical methods
Making relevant inferences from data
Communications discipline (n=6)
Communicating effectively both in writing and orally
Presenting accurately and effectively demographic, statistical, programmatic, and scientific information for professional and lay audiences
Policy and program-planning discipline (n=10)
Developing mechanisms to monitor and evaluate programs (effectiveness, quality)
Culture discipline (n=4)
Developing and adapting approaches that take into account cultural differences
Basic science discipline (n=4)
Understanding research methods in all basic public health sciences
Applying the basic public health sciences, including behavioral and social sciences, biostatistics, epidemiology, environmental public health, and prevention of chronic and infectious diseases and injuries
Finance and management discipline (n=8)
Monitoring program performance
Orientation to public health
Public health process
Core functions and essential services
Ethics and values of public health
Legal basis of public health

<sup>a</sup>Thirty-nine “universal” competencies distributed among 6 disciplines (number of competencies per discipline shown as “n=...”) were defined by the Faculty/Agency Forum.<sup>3</sup> The seventh set of competencies, “orientation to public health,” was added by supervisors and public health leaders in the course of this project’s assessment process.

workers. For example, only 1 of the 8 finance and management competencies appears in the model agenda (“Monitoring program performance”), but it is one of likely importance to workers at many levels rather than to managers alone. Two communications competencies appear in the model agenda—a reasonable outcome because virtually all public health workers must interact effectively with patients, the public, and/or other professionals.

The assessment process used in this project was sufficiently flexible to recognize important training topics from outside of the universal competency framework. Thus, an individual agency could use this framework and assessment process to tailor a training curriculum that meets a national standard, that makes efficient use of its resources by targeting a large proportion of workers for high-priority training, and that satisfies its particular workforce characteristics and programmatic needs.

The approach of this project was to ask supervisors about the training needs of their employees. Nevertheless, individual employees are the learners, and they must be well motivated for a training program to be effective. For them, job promotion or career advancement may be at least as important as improving their agency’s performance capacity. Thus, agencies that use the universal competency framework should begin with supervisors’ assessments but also should include consultation with individuals about their work quality and

career aspirations. Agencies’ performance review systems may be the appropriate vehicle for this.

The model training agenda as presented here is only the starting point for developing a training curriculum. A comprehensive training curriculum would have to recognize and meet the needs of workers with many different professions, educational backgrounds, and job responsibilities. The model agenda specifies only training topics; a comprehensive curriculum should specify learning objectives and should include pedagogic strategies appropriate to particular learners. Such a curriculum should have learning objectives for each competency at basic, intermediate, and advanced levels of mastery, and it should have a variety of modules with practical examples from various work applications.

The current project involved participants from 6 northeastern states and benefited from the advice of many national leaders. However, it did not explore training priorities of agencies in other parts of the United States, where the characteristics of public health agencies and workforces might have brought about different results. For example, some southern states have more highly centralized public health systems than do typical northeastern states, where independent local health departments are common. Therefore, agencies and educators who use this competency framework and assessment process should take such regional differences into account. □

## Contributors

M. A. Potter conceptualized the needs assessment framework and process, conducted the assessments with supervisors, led the deliberations of public health leaders, analyzed the results, and wrote and revised the paper. C. L. Pistella contributed substantially to the analysis and interpretation of these results and wrote or revised major portions of the paper. C. I. Ferman provided valuable insight for interpretation of results and wrote or revised portions of the paper. V. M. Dato constructed the systems for and facilitated the use of electronic communication among participants that was the mainstay of the project’s methodology; she also contributed an experienced public health practitioner’s perspective to the interpretation of results and participated in the revision of the paper.

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